

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
Establishing Just and Reasonable Rates for Local Exchange Carriers	)	WC Docket No. 07-135
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337
	)	
Developing an Unified Intercarrier Compensation Regime	)	CC Docket No. 01-92
	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
	)	
Lifeline and Link-Up	)	WC Docket No. 03-109

**ADDITIONAL COMMENTS of ADTRAN, Inc.**

ADTRAN, Inc. (“ADTRAN”) files these comments in response to the Commission’s request for additional, focused comments on service providers’ and state regulators’ proposals to address the Commission’s most recent efforts to reform universal service support and intercarrier compensation rules.<sup>1</sup> ADTRAN previously filed comments in this proceeding supporting the Commission’s proposal to modify the universal service fund to subsidize the deployment of

---

<sup>1</sup> *Further Inquiry into Certain Issues in the Universal Service-Intercarrier Compensation Transformation Proceeding*, DA 11-1348, released August 3, 2011 (hereafter cited as “*Public Notice*”).

broadband in areas where it would otherwise be uneconomic to make the necessary investment.<sup>2</sup>

ADTRAN believes that the proposed America's Broadband Connectivity plan of the six Price Cap Companies<sup>3</sup> provides an excellent blueprint for transformation of the Universal Service Fund in order to accomplish this goal. ADTRAN below addresses some of the specific questions raised in the *Public Notice*.

ADTRAN, founded in 1986 and headquartered in Huntsville, Alabama, is a leading global provider of networking and communications equipment, with a portfolio of intelligent solutions deployed by some of the world's largest service providers, distributed enterprises and small and medium-sized businesses. Importantly for purposes of this proceeding, ADTRAN solutions enable voice, data, video and Internet communications across copper, fiber and wireless network infrastructures. ADTRAN thus brings an expansive technology perspective to this proceeding, as well as an understanding of the impact of regulation on network operators' investment decisions.

*We seek comment on providing separate funding for fixed broadband (wired or wireless) and mobility. How should the Commission set the relative budgets of two separate components? How should the budgets be revised over time?*

ADTRAN agrees with the ABC Plan that there should be a separate fund for mobile broadband service. ADTRAN has consistently advocated that the Commission's treatment and subsidization of broadband should be "technology neutral." As a general matter, the Commission ought not favor wireless or wireline technologies (or any particular wireline

---

<sup>2</sup> See, ADTRAN comments in WC Docket No. 10-90 *et al.* (filed April 18, 2011).

<sup>3</sup> Letter from Robert W. Quinn, Jr., AT&T, Steve Davis, CenturyLink, Michael T. Skrivan, FairPoint, Kathleen Q. Abernathy, Frontier, Kathleen Grillo, Verizon, and Michael D. Rhoda, Windstream, to Marlene H. Dortch, FCC, WC Docket No. 10-90 *et al.* (filed July 29, 2011) ("ABC Plan").

technology). However, ADTRAN recognizes that the Commission can and should make distinctions between fixed and mobile broadband services.

In many respects, fixed and mobile broadband are complementary, not duplicative. Obviously, mobile broadband services support mobility. Less obviously, but just as important, fixed broadband services support traffic volumes that are at least an order of magnitude higher than those supported by mobile services. According to Cisco, in 2010 fixed broadband connections generated on average 14.9 GBytes per month in traffic, whereas laptops – the mobile device type using the highest volume – generated only 1.7 GBytes per month.<sup>4</sup> Just as mobile broadband service requirements cannot be met with implementations that do not support mobility, fixed broadband service requirements cannot be met with implementations that do not provide sufficient capacity to handle the volumes associated with fixed service.

Given the importance of mobile broadband for specific applications, ADTRAN endorses the notion of a separate broadband mobility fund. Based on the levels of investment in mobile broadband networks that have already occurred or been announced, it appears that much of the country will soon have access to 4G networks even without subsidization.<sup>5</sup> ADTRAN thus

---

<sup>4</sup> Cisco, “Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2010-2015,” February 1, 2011; Cisco, “Cisco Visual Networking Index: Usage,” October 25, 2010.

<sup>5</sup> See, Columbia Institute for Tele-Information, *Broadband in America 2<sup>nd</sup> Edition*, Robert Atkinson and Ivy Schultz, May, 2011, at pp. 66-68 [http://www4.gsb.columbia.edu/null/download?&exclusive=filemgr.download&file\\_id=738763](http://www4.gsb.columbia.edu/null/download?&exclusive=filemgr.download&file_id=738763), discussing the extensive 4G deployment plans of Clearwire Wireless, MetroPCS, Sprint, T-Mobile, AT&T, Verizon, OpenRange, Time Warner Cable/Road Runner Mobile, and LightSquared. See also, CNET, “4G a boon to U.S. economy and jobs, study says,” August 21, 2011, available at [http://news.cnet.com/8301-1035\\_3-20094588-94/4g-a-boon-to-u.s-economy-and-jobs-study-says/?part=rss&subj=news&tag=2547-1\\_3-0-20](http://news.cnet.com/8301-1035_3-20094588-94/4g-a-boon-to-u.s-economy-and-jobs-study-says/?part=rss&subj=news&tag=2547-1_3-0-20), (“The carriers could invest between \$25 billion and \$53 billion in building out their 4G network through 2016, according to a study from Deloitte.”)

believes that the ABC Plan proposal to create an advanced broadband mobility fund of no more than \$300 Million per year would seem to provide a sufficient level of support, at least initially. ADTRAN would urge the Commission to re-examine this level of funding after a period of four years to determine whether a higher or lower level of subsidization would be justified. Such a review could determine whether the announced deployment plans actually occurred, or whether there were still significant areas unserved by advanced mobile wireless services.

*We seek comment on what information would need to be filed in the record regarding the CostQuest Broadband Analysis Tool (CQBAT model) for the Commission to consider adopting it, as proposed in the ABC Plan.*

ADTRAN supports the use of a well-designed, forward looking model as a means of establishing a rapid basis for setting the ceiling on subsidies for broadband deployment. The ABC Plan advocates the use of the CQBAT model, which may very well fulfill such a role. However, despite the length of the CQBAT model documentation included in the ABC Plan submission (as well as the referenced Broadband Assessment Model [BAM] used by the Commission in developing the National Broadband Plan<sup>6</sup>), the information that was provided was fairly high level and did not provide detailed quantitative parameters.

As one example of the missing information, although the BAM – used as an input for the CQBAT model -- discusses wireless modeling in terms of cell capacity, and although usage assumptions directly drive cell capacity, there is no quantitative mention in the CQBAT documentation of usage assumptions. ADTRAN had previously identified several issues with

---

<sup>6</sup> See, Broadband Assessment Model, available at <http://download.broadband.gov/plan/fcc-omnibus-broadband-initiative-%28obi%29-working-reports-series-technical-paper-broadband-assessment-model.pdf> and <http://download.broadband.gov/plan/fcc-omnibus-broadband-initiative-%28obi%29-working-reports-series-technical-paper-bam-documentation.pdf>.

the Commission's use of the BAM, including an inaccurate value of 160 kbps for BHOL,<sup>7</sup> and it is not clear whether the CQBAT corrects these various problems. While the large volume of location-specific data in the CQBAT makes a detailed review of the model impractical, ADTRAN believes that fundamental input parameters (such as the BHOL used to size access nodes) should be included for the sake of transparency.

*The ABC Plan proposes using one technology to determine the modeled costs of 4 Mbps download/768 kbps upload service, while permitting support recipients to use any technology capable of meeting those requirements. Should the amounts determined by a model be adjusted to reflect the technology actually deployed?*

As ADTRAN indicated in its previous comments in this proceeding, specifying minimum broadband speeds of 4 Mbps download and 768 kbps upload will allow subscribers to enjoy all of the widely used classes of broadband applications, while maximizing the benefit of limited subsidy funding across as many consumers as possible.<sup>8</sup> The ABC Plan for these minimum data

---

<sup>7</sup> E.g., ADTRAN, "Ex Parte Submission: GN Docket No. 09-51 -- OBI Technical Paper 1," May 28, 2010 (available at <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020503385>); ADTRAN, "Comments of ADTRAN, Inc.," July 12, 2010 (available at <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020522295>).

<sup>8</sup> See, ADTRAN comments in WC Docket No. 10-90 *et al.* (filed April 18, 2011) at pp. 10-11. ADTRAN's previous comments also explained that other requirements should be incorporated into the minimum standards for subsidized broadband:

- Rates should be defined and measured at the transport layer.
- Performance should be sustainable. It should support a continuous stream of traffic at the target rate.
- Performance should be reliable. It should meet or exceed the target rate a high percentage of the time when measured during the busy hour.

rates thus reasonably balances the desire for speed with the competing need to limit the cost of the subsidy program.

ADTRAN also agrees with the ABC Plan's proposal to allow the use of any technology that will meet the minimum criteria. The Commission should allow the broadband service provider to determine which technology to deploy, so long as it provides the necessary capacity and reliability. Particularly because technology can be expected to continue to evolve over time, the service provider will be in the best position to decide what technology will economically best meet the needs of its customers.

While the model can produce a reasonable approximation of the forward looking costs of deploying broadband service, the Commission should use the model to set the maximum amount of support that will be provided. Simply allowing a service provider to recover its costs would not provide the necessary incentives to deploy broadband in the most efficient manner, consistent

- 
- One-way latency (excluding jitter) should be no more than 50 ms.
  - Limitations (if any) on traffic volume should be appropriate for the type of service. Any limitations on volume should not affect more than a small percentage of the users of a given service
  - Applications for funding should include evidence that planned networks will support the required performance targets through the agreed period of performance, given projected traffic volumes for the service. Evidence could be in the form of transparent/reproducible simulation results or analyses.
  - There must be a process for verifying performance post-deployment. The verification process should be periodic, since performance changes over time as subscribers are added, average traffic volume grows and networks are upgraded. Since the Commission, industry, academia, and other groups have been addressing issues related to performance measurement for the past year in the FCC's Broadband Performance Measurement project, many of the details associated with performance verification may best be defined within that effort.

with the minimum standards prescribed by the Commission. In light of the already distortive impact of the universal service “tax,”<sup>9</sup> we cannot afford to subsidize “gold-plated” broadband networks.

At the same time, ADTRAN does not believe that the broadband service provider should automatically receive the amount produced by the model. Service providers should not make a profit from the subsidies used to deploy new systems or expand current systems. If advances in technology or glitches in the model result in the provider being able to deploy broadband at a lower cost than predicted by the model, those investment cost savings should redound to the benefit of the subsidy fund so that even more broadband deployment can be supported. Thus, ADTRAN would urge the Commission to require that broadband service providers, after completion of construction, certify not only that their network meets the prescribed performance standards,<sup>10</sup> but also that their costs to deploy the subsidized service equaled or exceeded the putative costs determined by the model. If those costs did not, then the provider would only be entitled to recover its actual costs.

*Total company earnings review. The State Members recommended that a Provider of Last Resort Fund include a total company earnings review to limit a supported carrier from earning more than a reasonable return. We seek to further develop the record on the mechanics of conducting an earnings review to ensure that universal service is not providing excessive support to the detriment of consumers across the United States.*

---

<sup>9</sup> The USF contribution factor is currently set at 14.4%. [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2011/db0614/DA-11-1051A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2011/db0614/DA-11-1051A1.pdf). As recently as the first quarter of this year, the USF contribution factor was 15.5%. [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-10-2344A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-10-2344A1.pdf).

<sup>10</sup> See, e.g., “Measuring Broadband America, A Report on Consumer Wireline Broadband Performance in the U.S.”, released August 2, 2011, [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2011/db0802/DOC-308828A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2011/db0802/DOC-308828A1.pdf).

ADTRAN believes that the Commission's principle of avoiding cross-subsidies should apply in the context of the USF subsidy program, although ADTRAN believes the principle must apply with regard to the service providers' cross-subsidies flowing both to and from the USF supported services. The State Members' proposal for a "total company earnings review" has the potential to turn into a requirement that broadband service providers internally cross-subsidize their USF-supported broadband service from revenues produced from other unsupported services. Mandating such cross-subsidies would amount to a discriminatory and distortive "tax" on successful service providers.

On the other hand, to the extent that the State Members are arguing that broadband service providers should not earn excessive profits on supported services, ADTRAN believes the ABC Plan addresses that concern by use of the efficient, forward looking cost model to set the level of subsidies. Moreover, as ADTRAN suggested earlier, limiting the subsidies to the lower of actual cost or the cost model calculation should prevent profiting from the broadband deployment subsidies. Finally, ADTRAN observes that any attempt to determine service-specific costs and profits will quickly lead the Commission into the morass of cost allocation decisions, which necessarily entail arbitrary choices of how "best" to allocate joint and common costs. Based on the Commission's previous experiences, such proceedings would take years to complete.<sup>11</sup>

*We seek comment on the State Members' recommendation that, at least initially, the support mechanism should not factor in either the revenues or marginal costs of video*

---

<sup>11</sup> See, e.g., *AT&T*, 61 F.C.C.2d 587 (1976)(Docket 18128); *AT&T*, 84 F.C.C.2d 384 (1981)(Interim Cost Allocation Manual), *affirmed MCI Telecom. Corp. v. FCC*, 675 F.2d 408 (DC Cir 1982).

*operations to avoid the risk of subsidizing video operating losses attributable to unregulated programming costs.*

ADTRAN agrees with the State Members' desire to avoid subsidization of video services by the support offered for the deployment of broadband networks. As indicated above, ADTRAN believes that avoiding cross-subsidization is an important principle of the Universal Service Fund. The proposed CostQuest cost model incorporated in the ABC Plan appears to accomplish this by looking solely at the most efficient, forward looking cost of deploying broadband networks without video components.<sup>12</sup> ADTRAN does not believe the Commission needs to undertake any other investigation of cross-subsidization of video services, particularly in light of the difficulty (and inherent arbitrariness) of cost allocation decisions.<sup>13</sup> The costs, delays and uncertainties that would be engendered by any such cost allocation proceedings, which would necessarily precede such a review, would likely deter investment in broadband facilities.

*We seek comment on what total company rate of return should be used, what the mechanism should be for reducing support to the extent that total company rate of return is exceeded, and how often a total company earnings review should be conducted.*

As reflected in ADTRAN's responses to the previous questions, the Commission should avoid all cross-subsidies. The Commission should not adopt a "total company earnings review" used to reduce support as a means of attempting to subsidize broadband deployment from the service providers other offerings. It makes no sense to single out for "taxation" broadband

---

<sup>12</sup> See ABC Plan, Attachment 3, at p. 10: "No Video gear (including Set Top Boxes) installed."

<sup>13</sup> See, n. 11, *supra*.

service providers' unsupported other successful operations. Such discriminatory treatment would be inconsistent with the Section 254(b)(4)'s directive that "All providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service." Moreover, the Commission is not suggesting that it would "tax" other profitable companies that benefit from the widespread deployment of broadband, such as Google, thus likely creating distortions in the marketplace.

\* \* \* \* \*

ADTRAN urges the Commission to move forward expeditiously with the reformation of universal service subsidies consistent with the ABC Plan and these comments. ADTRAN believes such a course of action will well serve the public interest.

Respectfully submitted,

ADTRAN, Inc.

By: \_\_\_\_\_/s/  
Stephen L. Goodman  
Butzel Long Tighe Patton, PLLC  
1747 Pennsylvania Ave, NW, Suite 300  
Washington, DC 20006  
(202) 454-2851  
[SGoodman@bltplaw.com](mailto:SGoodman@bltplaw.com)

Dated: August 24, 2011